

## II. Claim Amendments

1. (Presently amended) A multicomponent vaccine for ruminants comprising ~~a safe and~~ an immunogenically effective combination of a protective antigen component from ~~a~~ at least six clostridial ~~organism~~ organisms, a protective antigen component from ~~a~~ at least one non-clostridial organism and an adjuvant, wherein the vaccine is in a low dose volume of about 3 ml or less.
2. (Presently amended) A multicomponent vaccine comprising ~~a safe and~~ an immunogenically effective combination of protective antigen components from at least seven clostridial organisms, a protective antigen component from ~~a~~ at least one non-clostridial organism and an adjuvant, wherein the vaccine is in a low dose volume of about 3 ml or less.
3. (Presently amended) The vaccine according to Claim 1, wherein the clostridial organism is selected from the group consisting of *Cl. chauvoei*, *Cl. septicum*, *Cl. novyi*, *Cl. perfringens* type C, *Cl. perfringens* type D, *Cl. sordellii*, *Cl. haemolyticum* and *Cl. tetani*.
4. (Presently amended) The vaccine according to Claim 1, wherein said non-clostridial organism is selected from

the group consisting of a Gram negative ~~bacteria~~  
bacterium, a Gram positive ~~bacteria~~ bacterium, a  
virus, a parasite and a rickettsia.

5. (Presently amended) The vaccine according to Claim 4,  
wherein the non-clostridial organism is at least one  
Gram negative ~~organism is~~ bacterium selected from the  
group consisting of *H. somnus*, *M. bovis*, *P.*  
*haemolytica*, *P. multocida*, *E. coli*, *S. typhimurium*,  
*Leptospira* spp. and *C. foetus*.
6. (Presently amended) The vaccine according to Claim 5,  
wherein the Gram negative ~~organism~~ bacterium is *H.*  
*somnus*.
7. (Presently amended) The vaccine according to Claim 5,  
wherein the Gram negative ~~organism~~ bacterium is *M.*  
*bovis*.
8. (Presently amended) The vaccine according to Claim 4,  
wherein the non-clostridial organism is at least one  
virus ~~is~~ selected from the group consisting of  
~~infections~~ infectious bovine rhinotracheitis virus,  
bovine ~~virus~~ viral diarrhea virus, parainfluenza type  
3 virus, bovine respiratory syncytial virus and a  
combination of at least two thereof.
9. (Presently amended) The vaccine according to Claim 4,  
wherein the non-clostridial organism is at least one

parasite ~~is~~ selected from the group consisting of  
*Neospora spp.*, *Tritrichomonas foetus* and  
*Cryptosporidium bovis*.

10. (Cancelled)

11. (Presently amended) The vaccine according to  
Claim 1, wherein the adjuvant is selected from the  
group consisting of a polymer, a block co-polymer, an  
oil-in-water emulsion, a water-in-oil emulsion,  
 $\text{Al}(\text{OH})_3$ ,  $\text{AlPO}_4$ , an extract of a bacterial cell wall, an  
extract of a plant, a liposome, ~~Quil-A and a~~  
~~combination thereof~~ a saponin and a combination of at  
least two thereof.

Claims 12-14 Cancelled

15. (Presently amended) The vaccine according to ~~Claim~~  
~~14~~ Claim 3, wherein the 6 clostridial organisms are  
selected from the group consisting of *Cl. chauvoei*,  
*Cl. septicum*, *Cl. novyi*, *Cl. perfringens* type C, *Cl.*  
*perfringens* type D, *Cl. haemolyticum* and *Cl.*  
*sordellii*.

16. (Cancelled)

17. (Presently amended) The vaccine according to ~~Claim~~  
~~16~~ Claim 2, wherein the 7 clostridial organisms are  
selected from the group consisting of *Cl. chauvoei*,

*Cl. septicum*, *Cl. novyi*, *Cl. perfringens* type C, *Cl. perfringens* type D, *Cl. sordellii*, *Cl. haemolyticum*, and *Cl. tetani*.

18. (Presently amended) ~~A multicomponent~~ The vaccine according to Claim 1, ~~for ruminants comprising a safe and immunogenically effective combination of a wherein~~ the protective antigen component from 6 clostridial organisms ~~which are~~ from *Cl. chauvoei*, *Cl. septicum*, *Cl. novyi*, *Cl. perfringens* type C, *Cl. perfringens*, type D, and *Cl. sordellii*, ~~a~~ and the protective antigen component from a non-clostridial organism ~~which is from~~ H. somnus and ~~an adjuvant, wherein the vaccine is in a low dose volume.~~

19. (Presently amended) ~~A multicomponent~~ The vaccine ~~for ruminants comprising a safe and immunogenically effective combination of an~~ according to claim 2, wherein the protective antigen component from 7 clostridial organisms ~~which are~~ is from *Cl. chauvoei*, *Cl. septicum*, *Cl. novyi*, *Cl. perfringens* type C, *Cl. perfringens*, type D, *Cl. haemolyticum* and *Cl. sordellii*, ~~a~~ and the protective antigen component from a non-clostridial organism ~~which is from~~ H. somnus and ~~an adjuvant, wherein the vaccine is in a low dose volume.~~

20. (Cancelled)

21. (Cancelled)

22. (Presently amended) A The multicomponent vaccine for ruminants according to Claim 4, wherein at least one comprising a safe and immunogenically effective combination of protective antigen components from a clostridial organism; a protective antigen component is from a virus and an adjuvant, wherein the vaccine is in a dose size of 3.

23. (Presently amended) A The multicomponent vaccine for ruminants according to Claim 22, wherein the comprising a safe and immunogenically effective combination of protective antigen components from a plurality of clostridial organisms; a protective antigen component from comprises a plurality of viruses and an adjuvant, wherein the vaccine is in a dose size of 3.0 mL or less.

24. (Presently amended) The vaccine according to Claim 23, wherein the clostridial organism is organisms are selected from the group consisting of *Cl. chauvoei*, *Cl. septicum*, *Cl. novyi*, *Cl. perfringens* type C, *Cl. perfringens*, type D, *Cl. sordellii*, *Cl. haemolyticum*, and *Cl. tetani*.

25. (Presently amended) The vaccine according to Claim 23, wherein the viruses are selected from the group consisting of infectious bovine rhinotracheitis, parainfluenza type 3 virus, bovine ~~virus~~ viral diarrhea virus and bovine respiratory syncytial virus.

26. (Presently amended) The vaccine according to Claim 23, wherein the adjuvant is selected from the group consisting of a polymer, a block co-polymer, an oil-in-water emulsion, a water-in-oil emulsion, an extract of a plant and a combination of at least two thereof.

27. (Cancelled)

28. (Presently amended) The vaccine according to Claim 2, wherein the non-clostridial organism is selected from the group consisting of a Gram negative ~~baeteria~~ bacterium, a Gram positive ~~baeteria~~ bacterium, a virus, a parasite and a rickettsia.

29. (Presently amended) The vaccine according to Claim 28, wherein the non-clostridial organism is a Gram negative bacterium and said Gram negative ~~organism~~ bacterium is selected from the group *consisting of H. somnus, M. bovis, P. haemolytica, P. multocida, E. coli, S. typhimurium, Leptospira spp. and C. foetus.*

30. (Presently amended) The vaccine according to Claim 28, wherein the non-clostridial organism is a virus and the virus is selected from the group consisting of infectious bovine rhinotracheitis, parainfluenza type 3 virus, bovine ~~virus~~ viral diarrhea virus and bovine respiratory syncytial virus.

31. (Presently amended) The vaccine according to Claim 28, wherein the non-clostridial organism is a parasite and the parasite is selected from the group consisting of *Neospora spp.*, *Tritrichomonas foetus* and *Cryptosporidia spp.*

32. (Cancelled)

33. (Presently amended) The vaccine according to Claim 28, wherein the adjuvant is selected from the group consisting of a polymer, a block polymer, an oil-in-water emulsion, a water-in-oil emulsion, an extract of a plant, a liposome and a combination of at least two thereof.

Claims 34 - 39 (Cancelled)

40. (Presently amended) ~~A multicomponent~~ The vaccine comprising a safe and immunogenically effective combination of a protective antigen component from according to claim 2, wherein the 7 clostridial

organisms ~~which~~ are *Cl. chauvoei*, *Cl. septicum*, *Cl. novyi*, *Cl. perfringens* type C, *Cl. perfringens* type D, *Cl. sordellii* and *Cl. haemolyticum*, ~~a~~ and the protective antigen component from at least one non-clostridial organism is *H. somnus* or *M. bovis* ~~and an~~ adjuvant, ~~wherein the vaccine is in a dose size of 3.0 mL or less.~~

41. (Presently amended) A multicomponent vaccine comprising a safe and immunogenically effective combination of a protective antigen component from 2 clostridial organisms which are selected from the group consisting of *Cl. chauvoei*, *Cl. septicum*, *Cl. novyi*, *Cl. perfringens* type C, *Cl. perfringens* type D, *Cl. sordellii*, *Cl. haemolyticum* and *Cl. tetani*; a protective antigen component from viruses ~~which are~~ selected from the group consisting of infectious bovine rhinotracheitis virus, parainfluenza type 3 virus, bovine virus viral diarrhea virus and bovine respiratory syncytial virus and an adjuvant, wherein the vaccine is in a dose size of 3.0 mL or less.

42. (Presently amended) A multicomponent vaccine comprising a safe and immunogenically effective combination of a protective antigen component from 6 clostridial organisms, which are *Cl. chauvoei*, *Cl.*



*septicum*, *Cl novyi*, *Cl. perfringens* type C, *Cl. perfringens* type D and *Cl. sordellii*; a protective antigen component from 4 viruses, which are infectious bovine rhinotracheitis virus, parainfluenza type 3 virus, bovine ~~virus~~ viral diarrhea virus and bovine respiratory syncytial virus, and an adjuvant, wherein the vaccine is in a dose size of 3.0 mL or less.

Claims 43-45 (Cancelled)

46. (New) A method of immunizing an animal comprising administering an effective amount of the vaccine of Claim 1.
47. (New) A method of immunizing an animal comprising administering an effective amount of the vaccine of Claim 2.